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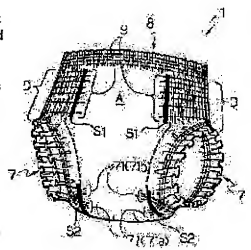
(54) ABSORBENT GOODS

(57)Abstract:
PROBLEM TO BE SOLVED: To provide a disposable diaper and the like which can freely decide the expandability and the expanding rate of the elastic waist material and can improve its well-fitting, absorbency and leak-proof efficiency without reduction of softness of the waist, skin irritation or other inconveniences.
SOLUTION: In a disposable diaper whose waist part D is attached with an elastic waist part 9, the elastic waist part 9 does not have the elasticity on the part where there is an absorbent body 4, and outside the both edges 41, 41 of the absorbent body 4, the elasticity appears as it is fixed to a component of the absorbent goods by the first fixing method, and the elastic waist part 9 is fixed to the component 5 of the absorbent goods by the second fixing method by the border between the elastic part and the non elastic part.



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CLAIMS

[Claim(s)]
[Claim 1]It has an absorber of liquid holdout which intervened between a fluid permeability surface sheet, a back sheet of fluid impermeability, and both sheets, Have a venter part, the back, and a length-from-the-crotch-to-the-cuff part, and two or more grith enclosure part elastic members crosswise [of a venter part and/or the back] in an absorbent article arranged with a prescribed interval said grith enclosure part elastic member, In [in a part to which said absorber exists, it is made as / reveal / elastic stretchability /, and] a way outside edges on both sides of this absorber, It is made as [reveal / it is fixed to a component of an absorbent article by the 1st fixing means, and / elastic stretchability], and said grith enclosure part elastic member, An absorbent article currently fixed to a component of an absorbent article by the 2nd fixing means in near the boundary part of a portion which does not reveal elastic stretchability, and a portion which reveals elastic stretchability.
[Claim 2]The absorbent article according to claim 1 whose 1st fixing means is adhesives and whose 2nd fixing means is heat sealing.
[Claim 3]The absorbent article according to claim 1 in which the 1st fixing means and the 2nd fixing means are adhesives, and this 2nd fixing means has bonding strength stronger than the 1st fixing means.
[Claim 4]So that a length-from-the-crotch-to-the-cuff part may be crossed to a leg part of a couple allotted to a circumference of a wearer's leg from one leg part and it may be covered at a leg part of another side, A leg part elastic member for leg gathers formation is allotted, and this leg part elastic member, The absorbent article according to any one of claims 1 to 3 which is made as [reveal / elastic stretchability] in a part to which said absorber exists, and is made as [reveal / it is fixed to a component of an absorbent article and / outside edges on both sides of said absorber, / in a way, / elastic stretchability].
[Claim 5]Said leg part elastic member in a way outside edges on both sides of said absorber, The absorbent article according to claim 4 which is being fixed to a component of an absorbent article by the 1st fixing means, and is being fixed to a component of an absorbent article by the 2nd fixing means in near the boundary part of a portion into which this leg part elastic member does not reveal elastic stretchability, and a portion which reveals elastic stretchability.

[Translation done.]

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention]This invention relates to absorbent articles, such as a disposable diaper excellent in fit nature, absorption performance, and the leakage prevention performance.
[0002]
[Description of the Prior Art]Conventionally, it has an absorber of the liquid holdout which intervened as an absorbent article between a fluid permeability surface sheet, the back sheet of fluid impermeability, and both sheets, and the disposable diaper in which two or more grith enclosure part elastic members are allotted crosswise [of a venter part and/or the back] with the prescribed interval is known. By allocating this grith enclosure part elastic member, the fit nature of the circumference of a trunk can be raised, and leakage prevention performance can be raised. However, in another side, shrinkage and a kink occur in an absorber during wear, and there is a possibility that the absorption performance which an absorber originally has may no longer be demonstrated fully, and appearance may get worse.
[0003]In order to avoid such inconvenience, it is possible to allot a grith enclosure part elastic member only to a way outside the edges on both sides of said absorber. For example, a grith enclosure part elastic member is allotted crosswise [of a venter part and/or the back] continuously, and how to cut this on an absorber and divide into right and left can be considered. However, when the bad adhesive elastic member of an elastic member with large elastic stress, such as thick thread rubber, the crude rubber in which talc has adhered to the surface, etc. is used. When a rubber omission arises during manufacture or wearing by cutting, an expanded state is canceled and there is a possibility that the fit nature of a periphery may be spoiled or leakage prevention performance may fall. When an elastic member with small elastic stress is used, the clamping force of a periphery is insufficient shortly and there is a possibility that the fit nature of a periphery may be spoiled or a leakage preventive effect may fall. When an elastic member with small elastic stress is allocated at a high extension rate, an adhesive property with sheets, such as a nonwoven fabric which pinches an elastic member, is made to fall.
[0004]If the quantity of the quantity of the adhesives for elastic member immobilization is increased in order to prevent a rubber omission, it may become a cause by which pliability falls, the elastic physical properties which an elastic member has are checked, and fit nature is reduced with a lot of adhesives, and a physical stimulus may be further done to a wearing person's skin. Adhesives ooze out from sheets, such as a nonwoven fabric which pinches an elastic member, and there are also displeasure by stickiness and also a possibility of becoming a cause of a rash.
[0005]Therefore, the purpose of this invention so that proper clamping force may be acquired by the periphery at the time of product development, Elongation stress and its allocation elongation percentage of a grith enclosure part elastic member can be determined freely, and it is in providing absorbent articles, such as a disposable diaper which can raise fit nature, absorption performance, and leakage prevention performance, without being accompanied by inconvenience, such as aggravation of the pliability of a periphery, and a stimulus to skin.
[0006]

[Means for Solving the Problem]This invention is provided with an absorber of liquid holdout which intervened between a fluid permeability surface sheet, a back sheet of fluid impermeability, and both sheets, Have a venter part, the back, and a length-from-the-crotch-to-the-cuff part, and two or more grith enclosure part elastic members crosswise [of a venter part and/or the back] in an absorbent article arranged with a prescribed interval said grith enclosure part elastic member, In [in a part to which said absorber exists, it is made as / reveal / elastic stretchability /, and] a way outside edges on both sides of this absorber, It is made as [reveal / it is fixed to a component of an absorbent article by the 1st fixing means, and / elastic stretchability], and said grith enclosure part elastic member, In near the boundary part of a portion which does not reveal elastic stretchability, and a portion which reveals elastic stretchability, said purpose is attained by providing an absorbent article currently fixed to a component of an absorbent article by the 2nd fixing means.

[0007]

[Embodiment of the Invention]Hereafter, this invention is explained based on the desirable embodiment. The disposable diaper 1 which is a 1st embodiment of the absorbent article of this invention, As it is a trousers type disposable diaper and is shown in drawing 1 and 2, it has the absorber 4 of the liquid holdout which intervened between the fluid permeability surface sheet 2, the back sheet 3 of fluid impermeability, and both the sheets 2 and 3, It has the back B allotted to the venter part A allotted to a wearer's venter and a backside and the length-from-the-crotch-to-the-cuff part C located between them, The edges on both sides A1 of the venter part A, the edges on both sides B1 of A2 and the back B, and B-2 are joined by publicly known join means, such as heat sealing, a high frequency seal, and an ultrasonic seal, and the leg opening 7 of a couple and the waist opening 8 are formed.

[0008]The disposable diaper 1 consists of the absorbent body 10 possessing the surface sheet 2, the back sheet 3, and the absorber 4, and the outer layer body 5 which is located in the outside of this absorbent body 10, and is carrying out junction immobilization of this absorbent body 10.

[0009]The absorbent body 10 makes longwise rectangular shape, is coincided in the direction which connects the venter part A and the back B in the state where the longitudinal direction 1 of the disposable diaper, i.e., a diaper, was developed for the longitudinal direction planate, and is joined to the center section of the outer layer body 5 by the publicly known join means. The absorber 4 makes the shape of a sandglass in which the longitudinal direction center section was narrow, and interposing and fixing is carried out between the surface sheet 2 and the back sheet 3. The solid guard 6 who has the free end in the method side of the inside of the cross direction of the absorbent body 10, and has a fixed end in the method side of outside is formed in the longitudinal direction both sides part of the absorbent body 10. Two or more solid guard elastic members (one is illustrated) 61 are being elastically fixed to each solid guard 6, the solid guard 6 stands up by this, and the outflow of the liquid to the cross direction of the absorbent body 10 is prevented.

[0010]The waist elastic member 81 for waist gathers formation is elastically allocated in the waist opening 8 along the opening edge. In detail, two or more waist elastic members are continued and allotted crosswise [the] to the front-and-back-ends part in the outer layer body 5 along each edge, and by these waist elastic members 81. The annular waist gathers which covered the edge part perimeter and followed the waist opening 8 substantially are formed.

[0011]In the disposable diaper 1 of this embodiment -- the venter part A and the back B -- two or more grith enclosure part elastic members 9 are allotted to the grith enclosure part D which is boiled, respectively and can be set with the prescribed interval crosswise [of the diaper 1]. The grith enclosure part D is a portion which is a lower part from the position to which the waist elastic member 81 was allotted, and is located up from the length-from-the-crotch-to-the-cuff part (portion which has a cavity for leg opening formation in a side part) C. Each grith enclosure part elastic member 9 is allotted between the web materials 51 and 52 of two sheets which constitute the outer layer body 5.

[0012]And in [each grith enclosure part elastic member 9 is made as / reveal / in the part to which the absorber 4 exists / elastic stretchability /, and] the way outside the edges on both

sides 41 and 41 of this absorber 4,It is made as [reveal / by the adhesives G as the 1st fixing means, it is fixed to the outer layer body 5 as a component of an absorbent article by a stretched state, and / elastic stretchability]. That is, the grith enclosure part elastic member 9 is divided by right and left, and in the part (the absorber 4 and the part arranged in piles) to which the absorber 4 exists, even if the grith enclosure part elastic member 9 does not exist or it exists, it does not reveal elastic stretchability, respectively, without being fixed to the outer layer body 5. On the other hand, outside the edges on both sides 41 and 41 of the absorber 4, like the conventional diaper which has a grith enclosure part elastic member, it is fixed to the component of a diaper and elastic shrinkage nature is revealed in a way.

[0013]The grith enclosure part elastic member 9 has a portion which is not being fixed to the outer layer body 5 to the part which laps with the absorber 4, is cut in the center section of the portion which is not being fixed to the outer layer body 5, and is divided by right and left. Adhesion fixing of the grith enclosure part elastic member 9 in the part which reveals elastic shrinkage nature is carried out to both both [one side or] 51 and 52 of two sheets which constitute the outer layer body 5.

[0014]In this specification, if elastic stretchability is not revealed, the elastic member is allotted, but. When the expanded state of the elastic member is canceled or the elasticity of an elastic member has disappeared by heat treatment etc., it is a meaning which includes both the case where elastic stretchability is not revealed, and in case an elastic member does not exist in this portion. It is preferred for that the elastic member is divided to mean that the portion which reveals the elastic stretchability of an elastic member is divided via the portion which does not reveal elastic stretchability, and to be divided by cutting of an elastic member.

[0015]The grith enclosure part elastic member 9 in the disposable diaper 1 of this embodiment, Near the boundary part of the portion which is allotted to the part to which the absorber 4 exists and does not reveal elastic stretchability, and the portion which is allotted to a way outside the both sides edge of the absorber 4, and reveals elastic stretchability by the 2nd fixing means. It is being fixed to the outer layer body 5 as a component of an absorbent article more firmly than the fixed part by the adhesives G as the 1st fixing means. The 2nd fixing means in this embodiment is heat sealing, and has shown the part which gave heat sealing as the 2nd fixing means to drawing 1 and 2 with the numerals S1. In [like / a graphic display] the disposable diaper of this embodiment, On the other hand, the sheets 51 and 52 of two sheets with the adhesives G as the 1st fixing means Or the adhesion region P1 pasted up on both sides, [the grith enclosure part elastic member 9] It is located between the adhesion regions P1, and the non adhesion region P2 which the grith enclosure part elastic member 9 has pasted up on neither of the sheets 51 and 52 of two sheets is formed, and the grith enclosure part elastic member 9, In the position of boundary layer (dashed dotted line P shows in drawing 2) slippage [in / more / in details / the adhesion region P1] to both fields near the boundary part of the adhesion region P1 and the non adhesion region P2, it is being fixed to the outer layer body 5 as a component of the diaper 1 with heat sealing.

[0016]The fixed part fixed to the outer layer body 5 with heat sealing as the 2nd fixing means in each grith enclosure part elastic member 9 is being fixed to the component of an absorbent article more firmly than the fixed part fixed only by the adhesives as the 1st fixing means.

[0017]The immobilization by heat sealing as the 2nd fixing means is attained, when both the web materials 51 and 52 comrades weld, interposing and fixing of the grith enclosure part elastic member is carried out among both web materials or the web material of an elastic member, one side, or both sides welds.

[0018]In the state where elastic stretchability may be revealed, the 1st fixing means in this invention is a grith enclosure part elastic member a means to fix to the component (preferably web material) of an absorbent article, and as the 1st fixing means, Adhesives, heat sealing (an ultrasonic seal is included), etc. are mentioned, and it is preferred that they are adhesives as in this embodiment. As adhesives as the 1st fixing means, although publicly known adhesives can be used in some numbers, hot melt adhesive is preferred and the hot melt adhesive of a SEBS system, an SBS system, and a SIS system is preferred especially. Although what is directly applied to an elastic member is preferred as for the applied pattern of adhesives, a stripe, a

spiral, solid one, dot form, etc. are not restricted in particular.
[0019]Although the 2nd fixing means is a means for fixing a grith enclosure part elastic member to the component of an absorbent article more firmly than the fixed part by the 1st fixing means, i.e., the part fixed by only the 1st fixing means, and it is usually a different means from the 1st fixing means, or the same means as the 1st fixing means, It is given so that fixing strength stronger than the 1st fixing means may be obtained.
[0020]As a fixing means given so that fixing strength stronger than the 1st fixing means might be obtained, For example, the adhesives etc. in which adhesive strength is more powerful than the adhesives used as the 1st fixing means, That etc. from which fixing strength stronger than the 1st fixing means is obtained with the physical properties thru/or the characteristic of the 2nd fixing means itself. For example, that from which fixing strength stronger than the 1st fixing means is obtained is also contained by having been given in a different mode from the 1st fixing means, such as adhesives additionally given in piles to the fixed part by the adhesives as the 1st fixing means, and adhesives applied to high basis weight rather than the adhesives as the 1st fixing means. The 2nd fixing means is given at the process (it is a process after the process of the 1st fixing means preferably) of usually differing from the process of giving the 1st fixing means.
[0021]As the 2nd fixing means, the same thing as the 1st fixing means can be used. As a desirable combination of the 1st and 2nd fixing means, (1) The 1st fixing means can mention what was given so that combination, and the (2) 1st fixing means and, and the 2nd fixing means of heat sealing (an ultrasonic seal is included) might be acquired [both] for the 2nd fixing means with adhesives and the bonding strength in which the 2nd fixing means is stronger than the 1st fixing means might be obtained with adhesives. When there is an advantage that material cost does not start when using heat sealing and it uses the fixing means by adhesives as the 2nd fixing means, there is an advantage which an effect has more of being easy to carry out condition ******, by adjustment of coverage.
[0022]In the 1st fixing means, the 2nd fixing means with adhesives In the case of heat sealing (an ultrasonic seal is included). After applying the adhesives as the 1st fixing means to either of the web materials 51 and 52 of two sheets which constitute the outer layer body 5 and, making the grith enclosure part elastic member 9 pinch subsequently to between both the web materials 51 and 52, it is preferred to carry out the seal of between the upper and lower sides of both the sheets 51 and 52.
[0023]To one web material of the web materials 51 and 52 of two sheets which constitute the outer layer body 5 when each of 1st fixing means and 2nd fixing means is adhesives. After applying both the adhesives as the 1st fixing means, and the adhesives as the 2nd fixing means, on this web material that applied those adhesives, allot the grith enclosure part elastic member 9, and it ranks second, After applying the adhesives as the 1st fixing means to one web material of the method of allotting the web material of another side on this grith enclosure part elastic member 9, or the web materials 51 and 52 of two sheets, The method of allotting the grith enclosure part elastic member 9, applying the adhesives as the 2nd fixing means subsequently to the web material of the grith enclosure part elastic member 9 top or another side, and allotting this web material of another side on the grith enclosure part elastic member 9 is preferred.
[0024]As for the part which applies the adhesives as the 2nd fixing means, it is preferred that it is the same as the part which gave heat sealing in this embodiment. What is necessary is just to use a publicly known coater and positioning device in some numbers, in order to apply the adhesives as the 2nd fixing means to the specific selected part.
[0025]So that the length-from-the-crotch-to-the-cuff part C may be crossed to the leg parts 70 and 70 of the couple allotted to the circumference of a wearer's leg from one leg part 70 and they may be covered in the disposable diaper 1 of this embodiment at the leg part 70 of another side. The leg part elastic member 71 for leg gathers formation is allotted, and this leg part elastic member 71, In the part to which the absorber 4 exists, it is made as [reveal / elastic stretchability] and is made in the way as [reveal / it is fixed to the outer layer body 5 as a component of an absorbent article, and / elastic stretchability] outside the edges on both sides 41 and 41 of the absorber 4.

[0026]This disposable diaper 1 is provided with the following.
The 1st elastic member 71a to which both ends are located in the venter part A as the leg part elastic member 71.
The 2nd elastic member 71b to which both ends are located in the back B.
the 1st and 2nd elastic members 71a and 71b — each of both ends, In the state where it was located in the venter part A or the edges-on-both-sides part of the back B, and the edges on both sides A1 of the venter part A of the diaper 1, the edges on both sides B1 of A2 and the back B, and B-2 were joined mutually, As shown in drawing 1, the annular leg gathers which covered the perimeter and followed substantially the edge part of the leg openings 7 and 7 of the diaper 1 are formed.
[0027]Both the elastic members 71a and 71b in the way outside the edges on both sides 41 and 41 of the absorber 4, It is being fixed to the outer layer body 5 as a component of an absorbent article by the adhesives G as the 1st fixing means, and both the elastic members 71a and 71b, In near the boundary part of the portion which does not reveal elastic stretchability, and the portion which reveals elastic stretchability, With heat sealing (it is the portion into which S2 heat sealed among drawing 2) as the 2nd fixing means, it is being fixed to the outer layer body 5 as a component of an absorbent article more firmly than the fixed part by the 1st fixing means.
[0028]As the 1st and 2nd fixing means for fixing the leg part elastic member 71, the 1st and 2nd fixing means for fixing the grith enclosure part elastic member 9, respectively and the same means can be used. Both the elastic members 71a and 71b have the portion currently fixed to the outer layer body 5, and a portion which is not being fixed, and are cut in the portion which is not being fixed to the outer layer body 5. The leg part elastic member 71 is made to rook between the web materials 51 and 52 which constitute the outer layer body 5, and is introduced. To the point of not explaining the fixing method in particular of the leg part elastic member 71, including a desirable mode, it is the same as that of the grith enclosure part elastic member 9, and the explanation mentioned above about the grith enclosure part elastic member 9 is applied suitably.
[0029]If the formation material of the members forming of the disposable diaper 1 of this embodiment is explained, As a formation material of the web material for surface sheet 2, back sheet 3, absorber 4, and solid guard 6 formation and the elastic member 61, and the waist elastic member 81, what is used for a disposable diaper etc. can be conventionally used especially without restriction.
[0030]As a formation material of the grith enclosure part elastic member 9 and the leg part elastic member 71, Usually, can use various kinds of publicly known spring materials, and as a raw material, Synthetic rubbers, such as styrene butadiene, butadiene, isoprene, and a neoprene (registered trademark), The raw material of elasticity, such as crude rubber, EVA, elastic polyolefine, and urethane, can be used widely, and the thing of a rectangle, a square, circular, and polygonal shape which has a filar section, and the thing of tape shape are preferred as a gestalt. The elastic member of the character plasticized with heat is also used suitably.
[0031]The **** material of the web material of two sheets in the case of fixing the grith enclosure part elastic member 9 and/or the leg part elastic member 71 between the web materials of two sheets which constitute a diaper, Both web materials are [web materials] preferred and that it is a thing containing thermal melting arrival nature textiles especially, Since high fixing strength is obtained by heat-sealing nature with an expensive nonwoven fabric of the nonwoven fabric containing an adhesive sheath-core type bicomponent fiber (for example, bicomponent fiber of a PET core PE sheath), the nonwoven fabric containing an adhesive side by side type bicomponent fiber, and the by component containing the synthetic fiber of a high-melting point and a low melting point, it is desirable. As a fixing [between the web materials 51 and 52 of two sheets which constitute an outer layer body]-especially-grith enclosure part elastic member 9 and/or leg part elastic member 71 formation material, It has moisture permeability and breathability by solution resistance nature and fluid impermeability preferably, and is the Takayoshi flexibility sheet of the feel near an underwear, and textile fabrics, a nonwoven fabric, a film, a moisture permeation film, puncturing films, such composites, etc. are specifically preferred.

[0032]An example of the manufacturing method of the outer layer body 5 in the disposable diaper 1 of this embodiment is explained with reference to drawing 3. First, coating of the adhesives as the 1st fixing means is carried out to at least one web material 51 of the web materials 51 and 52 of two sheets which constitute an outer layer body by a predetermined pattern (coating process). As shown in drawing 3 (a), specifically, adhesives are intermittently applied to the flow direction X of the web material 51 at the predetermined intervals. Thereby, the application part H1 and the non-application part H2 of adhesives cover the flow direction X of a web material, and are formed in the web material 51 by turns.
[0033]Subsequently, after introducing the grith enclosure part elastic member 9 and the 1st and 2nd elastic members 71a and 71b by an expanded state so that it may be intermittently fixed among both the web materials 51 and 52 via adhesives, respectively, both the web materials 51 and 52 comrades are pasted together (introductory lamination process). Both the elastic members 71a and 71b are introduced making it rock in the direction Y which intersects perpendicularly with the flow direction X of both continuation sheets. In the example shown in drawing 3, both the web materials 51 and 52 are mutually pasted together immediately after introduction of these elastic members. In this introductory lamination process, both the web materials 51 and 52 are mutually stuck in the application part H1 of adhesives, and the adhesion region P1 is formed, and the non adhesion region P2 where both continuation sheets of each other are not stuck is formed. In the adhesion region P1, it is fixed among both web materials and the grith enclosure part elastic member 9 and the 1st and 2nd elastic members 71a and 71b are not fixed among both web materials in the non adhesion region P2, respectively.
[0034]Subsequently, as are shown in drawing 3 (b), and the grith enclosure part elastic member 9 and the 1st and 2nd elastic members 71a and 71b are cut in the part which is not being fixed to both the web materials 51 and 52 (cutting process) and it is further shown in drawing 3 (c), the cut grith enclosure part elastic member 9 and both the elastic members 71a and 71b — the predetermined part which is boiled, respectively and can be set is fixed among both the web materials 51 and 52 with heat sealing as the 2nd fixing means (fixing process). the portion which the portion shown by S1 is a fixed part by heat sealing of the grith enclosure part elastic member 9 among drawing 3, and was shown by S2 — the 1st and 2nd elastic members 71a and 71b as the leg part elastic member 71 — it is a fixed part by heat sealing which is boiled, respectively and can be set.
[0035]In said cutting process, a publicly known cutting means can be used in some numbers, for example, a pinch cutter, a rotary die cutter, a heat-sealing cutter, ultrasonic cutters, a water jet cutter, etc. can be used.
[0036]When using heat sealing as the 2nd fixing means in said fixing process, heat sealing, Although the seal (solid seal) of the seal area may be carried out to the ******, it is preferred to carry out the seal of a seal area becoming hard and aesthetic property worsening selectively by a predetermined pattern from a viewpoint to prevent. Heat sealing is performed by usually inserting in a leg part elastic member between the seal rolls of a couple with the web material for fixing this. As for the seal roll of a couple, it may be preferred that they are a pattern roll and the back up roll, a heating roller may be used only for one of rolls, and a heating roller may be sufficient as both. It is processible by the optimal processing conditions for material by changing factors, such as roll temperature, seal time, clearance, and a pressure.
[0037]The lamination layer sheet 50 elasticity-ized selectively is obtained through such a process. Cutting removal of the excessive portion 72 for leg part formation is carried out from this lamination layer sheet 50, and the outer layer body 5 is obtained by cutting this lamination layer sheet 50 in the size of each outer layer body 5. A fixing process may perform the front stirrup of a cutting process simultaneously.
[0038]The disposable diaper 1 of this embodiment is obtained by carrying out junction immobilization of the absorbent body 10 manufactured in accordance with the conventional method by a publicly known join means, and also joining the edges on both sides A1 of the venter part A, A2, and the edges on both sides B1 of the back B and B-2 to the outer layer body 5 manufactured by the method mentioned above, for example.
[0039]The disposable diaper 1 of this embodiment can be used like a usual trousers type

disposable diaper. And according to the disposable diaper 1 of this embodiment, since the grith enclosure part elastic member 9 is allotted to the grith enclosure part D, the fit nature of the circumference of a wearer's trunk is improving, and it excels also in the leakage prevention performance. And since it is made as [reveal / in the part to which the absorber 4 exists / the grith enclosure part elastic member 9 / elastic stretchability], the shrinkage of the absorber 4 and kink under wear are prevented effectively, and the absorption performance which the absorber 4 originally has can fully be demonstrated. Therefore, it is also possible to aim at miniaturization of the absorber 4, reduction of the material of construction, etc., maintaining sufficient absorption performance for the diaper 1. an absorber — a rib — ****** -- having — being hard -- since — it is refreshed appearance and the printed design is also legible.

[0040]Since the prescribed spot of the grith enclosure part elastic member is being fixed by the 2nd fixing means in the disposable diaper 1, When elongation stress uses the bad adhesive elastic member of a large elastic member, the crude rubber in which talc has adhered to the surface, etc. as a grith enclosure part elastic member, a rubber omission does not arise. Therefore, the elongation stress and its allocation elongation percentage of a grith enclosure part elastic member can be determined suitably, and improvement in fit nature, absorption performance, and leakage prevention performance can be aimed at efficiently and economically so that proper clamping force may be acquired by the periphery. In the disposable diaper 1 of this embodiment, since it is not necessary to use a lot of adhesives unlike the case where a grith enclosure part elastic member is fixed only by the 1st fixing means, there is no possibility of producing the fall of the pliability by a lot of adhesives, the adverse effect to skin, the displeasure by stickiness, etc.

[0041]In this disposable diaper 1, since it is made as [reveal / in the portion in which the absorber 4 exists / the leg part elastic member 71 / elastic stretchability], it excels in the fit nature and absorption performance especially in a length-from-the-crotch-to-the-cuff part. And since the leg part elastic member 71 as well as the grith enclosure part elastic member 9 is being fixed by the 1st and 2nd fixing means, improvement in fit nature, absorption performance, and leakage prevention performance can be aimed at much more efficiently and economically.

[0042]As mentioned above, although one embodiment of this invention was described, this invention can be variously changed in the range which does not deviate from the meaning of this invention, without being restricted to the above-mentioned embodiment. For example, the grith enclosure part elastic member may be allotted to either one of a venter part and the back. Even if it is a case where it is allotted to a venter part and the back, in either one of a venter part and the back, it may be made as [reveal / in the part to which the absorber 4 exists / a grith enclosure part elastic member / elastic stretchability].

[0043]Although the grith enclosure part elastic member 9 in the above-mentioned embodiment was allotted between the web material (outer layer sheet) 51 which forms the outermost surface of the diaper 1, and the web material (inner layer sheet) 52 of the inside, It may not be restricted to this but may be allotted between the web materials of other two sheets which between the web materials allotted to the inner layer sheet 52 and its inside and the outer layer body 5 constitute, between the back sheet 3 and the web material which constitutes the outer layer body 5, etc.

[0044]In the part to which the absorber 4 exists, the leg part elastic member 71 may be made as [reveal / elastic stretchability].

[0045]The portion which reveals the elastic stretchability in the grith enclosure part elastic member 9 may lap with the part to which the absorber 4 exists somewhat. A way may have a portion into which the grith enclosure part elastic member 9 does not reveal elastic stretchability outside the edges on both sides of the absorber 4.

[0046]The part which fixes the grith enclosure part elastic member 9 by the 2nd fixing means may be the position which separated some from this boundary line besides on the boundary line of the portion which does not reveal elastic stretchability, and the portion which reveals elastic stretchability to the portion side which reveals the portion side which does not reveal elastic stretchability, or elastic stretchability.

[0047]As a mode currently made as [reveal / in the part to which the absorber 4 exists / the

grith enclosure part elastic member 9 / elastic stretchability], the grith enclosure part elastic member 9 may be cut and fragmented at two or more places.
[0048]The 1st fixing means that fixes the grith enclosure part elastic member 9, and the 1st fixing means that fixes the leg part elastic member 71 may be the same, or it may differ, and the same may be said of the 2nd fixing means.
[0049]The shield sheet which covers the end produced by cutting of these elastic members may be provided in the cutting part of the grith enclosure part elastic member 9 and/or the leg part elastic member 71. The end of the elastic member produced by cutting is contracted and un-functionalized, the scrap may be transparent from the outside, and may appear, or the outer layer sheet of a cutting part may receive a damage, and its hole may suit. By providing a concealing sheet in the portion, appearance becomes good. As a formation material of a concealing sheet, the Takayoshi flexibility sheet of the feel near an underwear is preferred, and textile fabrics, a nonwoven fabric, a film, a moisture permeation film, a puncturing film, papers, such composites, etc. are specifically used.
[0050]This invention is also applicable to the developed type disposable diaper in which the fastening tape of the couple besides a trousers type disposable diaper was provided, the sanitary napkin of further a trousers type, etc.
[0051]
[Effect of the Invention]According to the absorbent article of this invention, so that proper clamping force may be acquired by the periphery at the time of product development, Elongation stress and its allocation elongation percentage of a grith enclosure part elastic member can be determined freely, and fit nature, absorption performance, and leakage prevention performance can be raised, without being accompanied by inconvenience, such as aggravation of the pliability of a periphery, and a stimulus to skin.

[Translation done.]

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1]Drawing 1 is a perspective view showing the disposable diaper of one embodiment of this invention.
[Drawing 2]Drawing 2 is an exploded perspective view showing an expanded state for the disposable diaper shown in drawing 1.
[Drawing 3]Drawing 3 is a figure showing the outline of an example of the manufacturing process of the outer layer body in the disposable diaper shown in drawing 1.
[Description of Notations]
1 Disposable diaper
10 Absorbent body
2 Surface sheet
3 Back sheet
4 Absorber
41 The side edge of an absorber
5 Outer layer body
51 Web material (outer layer sheet)
52 Web material (inner layer sheet)
6 Solid guard
61 Solid guard elastic member
7 Leg opening
70 Leg part
71 Leg part elastic member
71a The 1st elastic member
71b The 2nd elastic member
8 Waist opening
81 Waist elastic member
9 Grith enclosure part elastic member
A Venter part
B Back
C Length-from-the-crotch-to-the-cuff part

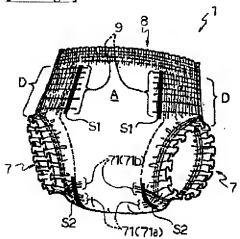
[Translation done.]

* NOTICES *

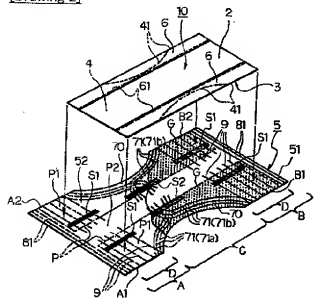
1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DRAWINGS

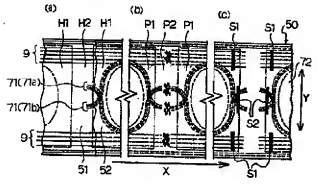
[Drawing 1]



[Drawing 2]



[Drawing 3]



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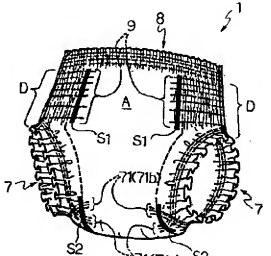
最終頁に続く

(54)【発明の名称】　吸収性物品

(57)【要約】
【課題】　胴周囲部弾性部材の伸長応力やその配設伸張率を自由に決定でき、胴回りの柔軟性の悪化や肌への刺激等の不都合を伴わずに、フィット性や吸収性能、漏れ防止性能を向上させることができる使い捨ておむつ等を提供すること。
【解決手段】　胴回り部Ｄに、胴周囲部弾性部材９が配されている使い捨ておむつ等において、胴周囲部弾性部材９は、吸収体４が存在する部位においては、弾性伸縮性を発現しないようになされ、該吸収体４の両側縁４１，４１の外方においては、第１固定手段により吸収性物品の構成材に固定されて弾性伸縮性を発現するようになされており、胴周囲部弾性部材９は、弾性伸縮性を発現しない部分と弾性伸縮性を発現する部分との境界部付近において、第２固定手段により吸収性物品の構成材５に固定されている。



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【特許請求の範囲】

【請求項１】　液透過性の表面シート、液不透過性の裏面シート及び両シート間に介在された液保持性の吸収体を備え、腹側部、背側部及び股下部を有し、腹側部及び／又は背側部の幅方向に、複数の胴周囲部弾性部材が所定間隔で配されている吸収性物品において、

前記胴周囲部弾性部材は、前記吸収体が存在する部位においては、弾性伸縮性を発現しないようになされ、該吸収体の両側縁の外方においては、第１固定手段により吸収性物品の構成材に固定されて弾性伸縮性を発現するようになされており、

前記胴周囲部弾性部材は、弾性伸縮性を発現しない部分と弾性伸縮性を発現する部分との境界部付近において、第２固定手段により吸収性物品の構成材に固定されている吸収性物品。

【請求項２】　第１固定手段が接着剤であり、第２固定手段がヒートシールである請求項１記載の吸収性物品。

【請求項３】　第１固定手段および第２固定手段が接着剤であり、該第２固定手段よりも、第１固定手段よりも強い接合強度を有する請求項１記載の吸収性物品。

【請求項４】　着用者の脚廻りに配される一対のレッグ部に、一方のレッグ部から股下部を横断して他方のレッグ部に亘るように、レッグギャザー形成用のレッグ部弾性部材が配されており、該レッグ部弾性部材は、前記吸収体が存在する部位においては、弾性伸縮性を発現しないようになされ、前記吸収体の両側縁の外方においては、吸収性物品の構成材に固定されて弾性伸縮性を発現するようになされている請求項１～３の何れかに記載の吸収性物品。

【請求項５】　前記吸収体の両側縁の外方における前記レッグ部弾性部材は、第１固定手段により吸収性物品の構成材に固定されており、該レッグ部弾性部材は、弾性伸縮性を発現しない部分と弾性伸縮性を発現する部分との境界部付近において、第２固定手段により吸収性物品の構成材に固定されている請求項４に記載の吸収性物品。

【発明の詳細な説明】

【０００１】

【発明の属する技術分野】本発明は、フィット性、吸収性能及び漏れ防止性能に優れた使い捨ておむつ等の吸収性物品に関する。

【０００２】

【従来の技術及び発明が解決しようとする課題】従来、吸収性物品として、液透過性の表面シート、液不透過性の裏面シート及び両シート間に介在された液保持性の吸収体を備え、腹側部及び／又は背側部の幅方向に、複数の胴周囲部弾性部材が所定間隔で配されている使い捨ておむつが知られている。斯かる胴周囲部弾性部材を配設することで、胴廻りにおけるフィット性を向上させ、また、漏れ防止性能を向上させることができる。しかし、

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他方において、着用中に吸収体に縮みやヨレが発生し、吸収体が本来有する吸収性能が充分に発揮されなくなる恐れがあり、また、外観が悪化する場合もある。

【０００３】これらの不都合を回避するためには、胴周囲部弾性部材を、前記吸収体の両側縁の外方にのみ配することが考えられる。例えば、胴周囲部弾性部材を、腹側部及び／又は背側部の幅方向に連続的に配し、これを吸収体上で切断して左右に分割する方法が考えられる。しかし、太い糸ゴム等の伸縮応力が大きい弾性部材や、タルクが表面に付着している天然ゴム等の接着性の悪い弾性部材を用いた場合には、切断によって、製造中又は装着中に、ゴム抜けが生じることによって、伸長状態が解除されて胴回りのフィット性が損なわれたり、漏れ防止性能が低下したりする恐れがある。また、伸縮応力の小さい弾性部材を用いた場合には、今度は、胴回りの締め付け力が不足し、胴回りのフィット性が損なわれたり、漏れ防止効果が低下したりする恐れがある。また、伸縮応力の小さい弾性部材を高伸長率で配設した場合には、弾性部材を挟持する不織布等のシートとの接着性を低下させることとなる。

【０００４】また、ゴム抜けを防止するために、弾性部材固定用の接着剤の量を増量すると、多量の接着剤によって柔軟性が低下し、弾性部材が持つ伸縮物性が阻害されてフィット性を低下させる原因となり、更には、装着者の肌へ物理的な刺激を及ぼす可能性がある。また、弾性部材を挟持する不織布等のシートから接着剤が染み出し、べたつきによる不快感、更にはカブレの原因となる恐れもある。

【０００５】従って、本発明の目的は、製品開発時に、胴回りに適正な締め付け力が得られるように、胴周囲部弾性部材の伸長応力やその配設伸張率を自由に決定でき、胴回りの柔軟性の悪化や肌への刺激等の不都合を伴わずに、フィット性や吸収性能、漏れ防止性能を向上させることのできる使い捨ておむつ等の吸収性物品を提供することにある。

【０００６】

【課題を解決するための手段】本発明は、液透過性の表面シート、液不透過性の裏面シート及び両シート間に介在された液保持性の吸収体を備え、腹側部、背側部及び股下部を有し、腹側部及び／又は背側部の幅方向に、複数の胴周囲部弾性部材が所定間隔で配されている吸収性物品において、前記胴周囲部弾性部材は、前記吸収体が存在する部位においては、弾性伸縮性を発現しないようになされ、該吸収体の両側縁の外方においては、第１固定手段により吸収性物品の構成材に固定されて弾性伸縮性を発現するようになされており、前記胴周囲部弾性部材は、弾性伸縮性を発現しない部分と弾性伸縮性を発現する部分との境界部付近において、第２固定手段により吸収性物品の構成材に固定されている吸収性物品を提供することにより、前記目的を達成したものである。

【０００７】

【発明の実施の形態】以下、本発明をその好ましい実施形態に基づいて説明する。本発明の吸収性物品の第１実施形態である使い捨ておむつ１は、パンツ型の使い捨ておむつであり、図１及び２に示すように、液透過性の表面シート２、液不透過性の裏面シート３及び両シート２、３間に介在された液保持性の吸収体４を備え、着用者の腹側に配される腹側部Ａと背側に配される背側部Ｂとその間に位置する股下部Ｃとを有し、腹側部Ａの両側縁Ａ１，Ａ２と背側部Ｂの両側縁Ｂ１，Ｂ２とが、ヒートシール、高周波シール、超音波シール等の公知の接合手段により接合されて、一対のレッグ開口部７、及びウエスト開口部８が形成されている。

【０００８】使い捨ておむつ１は、表面シート２、裏面シート３及び吸収体４を具備する吸収性本体１０と、該吸収性本体１０の外側に位置して該吸収性本体１０を接合固定している外層体５とからなる。

【０００９】吸収性本体１０は、縦長矩形状をなし、その長手方向を、使い捨ておむつの長手方向、即ちおむつ１を平面状に展開した状態における腹側部Ａと背側部Ｂとを結ぶ方向に一致させて、外層体５の中央部に公知の接合手段により接合されている。吸収体４は、長手方向中央部の括れた砂時計状をなし、表面シート２及び裏面シート３間に挟持固定されている。吸収性本体１０の長手方向左右両側部には、吸収性本体１０の幅方向外方側に自由端を有し外方側に固定端を有する立体ガード６が設けられている。各立体ガード６には、複数本の立体ガード弾性部材（一本のみ図示）６１が伸縮自在に固定されており、これにより立体ガード６が起立し、吸収性本体１０の幅方向への液の流出が阻止される。

【００１０】ウエスト開口部８には、その開口縁部に沿ってウエストギャザー形成用のウエスト弾性部材８１が伸縮自在に配設されている。詳細には、外層体５における前後端縁に、それぞれの端縁に沿って、複数本のウエスト弾性部材がその幅方向に亘って配されており、これらのウエスト弾性部材８１により、ウエスト開口部８に、その周縁部全周に亘って実質的に連続した環状のウエストギャザーが形成されている。

【００１１】本実施形態の使い捨ておむつ１においては、腹側部Ａ及び背側部Ｂそれぞれにおける胴周囲部Ｄに、おむつ１の幅方向に、複数の胴周囲部弾性部材９が所定間隔で配されている。胴周囲部Ｄとは、ウエスト弾性部材８１が配された位置より下方で且つ股下部（両側部にレッグ開口形成用の切欠部を有する部分）Ｃよりも上方に位置する部分である。各胴周囲部弾性部材９は、外層体５を構成する二枚のシート材５１，５２間に配されている。

【００１２】そして、各胴周囲部弾性部材９は、吸収体４が存在する部位において弾性伸縮性を発現しないようになされ、該吸収体４の両側縁４１，４１の外方においては、第１固定手段としての接着剤Ｇにより、吸収性物品の構成材としての外層体５に伸長状態で固定されて弾性伸縮性を発現するようになされている。即ち、胴周囲部弾性部材９は、それぞれ、左右に分断されており、吸収体４が存在する部位（吸収体４と重ねて配置される部位）においては、胴周囲部弾性部材９が存在しないか、又は存在していても外層体５に固定されずに弾性伸縮性を発現しない。他方、吸収体４の両側縁４１，４１の外方においては、胴周囲部弾性部材を有する従来のおむつと同様に、おむつの構成材に固定され、弾性収縮性を発現する。

【００１３】胴周囲部弾性部材９は、吸収体４と重なる部位に、外層体５に固定されていない部分を有しており、その外層体５に固定されていない部分の中央部において分断され、左右に分断されている。尚、弾性収縮性を発現する部位における胴周囲部弾性部材９は、外層体５を構成する二枚のシート材５１，５２の一方又は両方に接着固定されている。

【００１４】本明細書において、弾性伸縮性を発現しないとは、弾性部材が配されているが、その弾性部材の伸長状態が解除されていたり、熱処理等により弾性部材の弾性が消失していること等によって弾性伸縮性を発現しない場合と、該部分に弾性部材が存在しない場合の両者を包含する意味である。また、弾性部材が分断されているとは、弾性部材の弾性伸縮性を発現する部分が、弾性伸縮性を発現しない部分を介して、分割されていることを意味し、弾性部材の切断により分断されていることが好ましい。

【００１５】本実施形態の使い捨ておむつ１における胴周囲部弾性部材９は、吸収体４が存在する部位に配されて弾性伸縮性を発現しない部分と、吸収体４の左右両側縁の外方に配されて弾性伸縮性を発現する部分との境界部付近が、第２固定手段により、第１固定手段としての接着剤Ｇによる固定部位よりも強固に吸収性物品の構成材としての外層体５に固定されている。本実施形態における第２固定手段は、ヒートシールであり、図１及び２には、第２固定手段としてのヒートシールを施した箇所を符号Ｓ１で示してある。図示の如く、本実施形態の使い捨ておむつにおいては、第１固定手段としての接着剤Ｇにより胴周囲部弾性部材９が二枚のシート５１，５２の一方又は双方に接着されている接着領域Ｐ１と、接着領域Ｐ１間に位置し胴周囲部弾性部材９が二枚のシート５１，５２の何れにも接着されていない非接着領域Ｐ２とが形成されており、胴周囲部弾性部材９は、接着領域Ｐ１と非接着領域Ｐ２との境界部近傍、より詳細には、接着領域Ｐ１における、両領域の境界線（図２中に一点鎖線Ｐで示す）寄りの位置において、ヒートシールにより、おむつ１の構成材としての外層体５に固定されている。

【００１６】各胴周囲部弾性部材９における、第２固定

手段としてのヒートシールにより外層体５に固定された固定部位は、第１固定手段としての接着剤のみにより固定された固定部位よりも強固に吸収性物品の構成材に固定されている。

【００１７】尚、第２固定手段としてのヒートシールによる固定は、両シート材５１，５２同士が融着して胴周囲部弾性部材が両シート材間に挟持固定されるか、又は弾性部材と片側又は両側のシート材とが融着することにより達成されている。

【００１８】本発明における第１固定手段は、胴周囲部弾性部材を、弾性伸縮性を発現し得る状態で吸収性物品の構成材（好ましくはシート材）に固定する手段であり、第１固定手段としては、接着剤、ヒートシール（超音波シールを含む）等が挙げられ、本実施形態におけるように接着剤であることが好ましい。第１固定手段としての接着剤としては、各種公知の接着剤を用いることができるが、ホットメルト接着剤が好ましく、特に、ＳＥＢＳ系、ＳＢＳ系、ＳＩＳ系のホットメルト接着剤が好ましい。また、接着剤の塗布パターンは、弾性部材に直接塗布するものが好ましいが、ストライプ、スパイラル、ベタ、ドット状等、特に制限されない。

【００１９】また、第２固定手段は、胴周囲部弾性部材を、第１固定手段による固定部位、即ち第１固定手段のみにより固定された部位よりも強固に、吸収性物品の構成材に固定するための手段であり、通常、第１固定手段とは異なる手段、又は第１固定手段と同じ手段であるが、第１固定手段よりも強い固定強度が得られるように施されたものである。

【００２０】第１固定手段よりも強い固定強度が得られるように施された固定手段としては、例えば第１固定手段として用いた接着剤よりも接着力の強い接着剤等、第２固定手段自体の物性ないし特性により第１固定手段よりも強い固定強度が得られるものの他、例えば第１固定手段としての接着剤による固定部位に追加的に重ねて施された接着剤や第１固定手段としての接着剤よりも高坪量に塗布された接着剤等、第１固定手段とは異なる態様で施されたことにより第１固定手段よりも強い固定強度が得られるものも含まれる。第２固定手段は、通常、第１固定手段を施す工程とは異なる工程（好ましくは第１固定手段の工程よりも後の工程）で施される。

【００２１】第２固定手段としては、第１固定手段と同様のものを用いることができる。第１及び第２固定手段の好ましい組み合わせとしては、（１）第１固定手段が接着剤で、第２固定手段がヒートシール（超音波シールを含む）の組み合わせや、（２）第１固定手段及び第２固定手段が共に接着剤で、第２固定手段が第１固定手段よりも強い接合強度が得られるように施された態様等を挙げることができる。第２固定手段として、ヒートシールを用いる場合は、材料コストがかからないという利点があり、接着剤による固定手段を用いる場合は、塗布量の調整により、より効果のある条件出しがし易いという利点がある。

【００２２】尚、第１固定手段が接着剤で、第２固定手段がヒートシール（超音波シールを含む）の場合、外層体５を構成する２枚のシート材５１，５２の何れか一方に第１固定手段としての接着剤を塗布し、次いで胴周囲部弾性部材９を両シート材５１，５２間に挟持させた後、両シート５１，５２の上下面間をシールすることが好ましい。

【００２３】また、第１固定手段及び第２固定手段が何れも接着剤である場合、外層体５を構成する２枚のシート材５１，５２の一方のシート材に、第１固定手段としての接着剤及び第２固定手段としての接着剤の両方を塗布した後、それらの接着剤を塗布した該シート材上に胴周囲部弾性部材９を配し、次いで、該胴周囲部弾性部材９上に他方のシート材を配する方法、又は２枚のシート材５１，５２の一方のシート材に第１固定手段としての接着剤を塗布した後、胴周囲部弾性部材９を配し、次いで胴周囲部弾性部材９上又は他方のシート材に第２固定手段としての接着剤を塗布し、他方の該シート材を、胴周囲部弾性部材９上に配する方法が好ましい。

【００２４】尚、第２固定手段としての接着剤を塗布する箇所は、本実施形態におけるヒートシールを施した箇所と同じであることが好ましい。また、第２固定手段としての接着剤を、選択された特定の部位に適用するには、各種公知の塗布装置と位置決め装置を用いれば良い。

【００２５】本実施形態の使い捨ておむつ１においては、着用者の脚廻りに配される一対のレッグ部７０，７０に、一方のレッグ部７０から股下部Ｃを横断して他方のレッグ部７０Ｋ亘るように、レッグギャザー形成用のレッグ部弾性部材７１が配されており、該レッグ部弾性部材７１は、吸収体４が存在する部位においては、弾性伸縮性を発現しないようになされ、吸収体４の両端縁４１，４１の外方においては、吸収性物品の構成材としての外層体５に固定されて弾性伸縮性を発現するようになされている。

【００２６】本使い捨ておむつ１は、レッグ部弾性部材７１として、両端部が腹側部Ａに位置する第１弾性部材７１ａと、両端部が背側部Ｂに位置する第２弾性部材７１ｂとを有している。第１及び第２弾性部材７１ａ，７１ｂそれぞれの両端部は、腹側部Ａ又は背側部Ｂの両側縁部に位置しており、おむつ１の腹側部Ａの両側縁Ａ１，Ａ２と背側部Ｂの両側縁Ｂ１，Ｂ２とが互いに接合された状態においては、図１に示すように、おむつ１のレッグ開口部７，７の周縁部に、その全周に亘って実質的に連続した環状のレッグギャザーが形成されている。

【００２７】また、吸収体４の両側縁４１，４１の外方における両弾性部材７１ａ，７１ｂは、第１固定手段としての接着剤Ｇにより吸収性物品の構成材としての外層

体５に固定されており、両弾性部材７１ａ，７１ｂは、弾性伸縮性を発現しない部分と弾性伸縮性を発現する部分との境界部付近において、第２固定手段としてのヒートシール（図２中、Ｓ２がヒートシールを施した部分である）により、第１固定手段による固定部位よりも強固に吸収性物品の構成材としての外層体５に固定されている。

【００２８】レッグ部弾性部材７１を固定するための第１及び第２固定手段としては、それぞれ胴周囲部弾性部材９を固定するための第１及び第２固定手段と同様の手段を用いることができる。両弾性部材７１ａ，７１ｂは、外層体５に固定されている部分と固定されていない部分を有し、外層体５に固定されていない部分において切断されている。レッグ部弾性部材７１は、外層体５を構成するシート材５１，５２間に延動させて導入されている。レッグ部弾性部材７１の固定方法について特に説明しない点については、好ましい態様を含めて胴周囲部弾性部材９と同様であり、胴周囲部弾性部材９に関して上述した説明が適宜適用される。

【００２９】本実施形態の使い捨ておむつ１の構成部材の形成材料について説明すると、表面シート２、裏面シート３、吸収体４、立体ガード６形成用のシート材及び弾性部材６１、ウエスト弾性部材８１の形成材料としては、従来、使い捨ておむつ等に用いられるものを特に制限なく用いることができる。

【００３０】胴周囲部弾性部材９及びレッグ部弾性部材７１の形成材料としては、通常公知の各種の弾性材料を用いることができ、素材としては、スチレン－ブタジエン、ブタジエン、イソプレン、ネオプレン（登録商標）等の合成ゴム、天然ゴム、ＥＶＡ、伸縮性ポリオレフィン、ウレタン等の伸縮性の素材を広く用いることができ、形態としては、断面が矩形、正方形、円形、多角形状の糸状のものやテープ状のものが好ましい。また、熱によって可塑化する性質の弾性部材も好適に用いられる。

【００３１】胴周囲部弾性部材９及び／又はレッグ部弾性部材７１を、おむつを構成する二枚のシート材間に固定する場合における二枚のシート材の形性材料は、両シート材共に、熱融着性繊維を含むものであることが好ましく、特に、芯鞘型の接着性複合繊維（例えばＰＥＴ芯ＰＥ鞘の複合繊維）を含む不織布や、サイドバイサイド型の接着性複合繊維を含む不織布、高融点と低融点の合成繊維を含むバイコンポーネントの不織布が、高いヒートシール性により高い固定強度が得られるので好ましい。特に、胴周囲部弾性部材９及び／又はレッグ部弾性部材７１を、外層体を構成する二枚のシート材５１，５２間に固定するの形成材料としては、好ましくは液抵抗性、液不透過性で透湿性、通気性を有し、肌着に近い感触の高可撓性シートで、具体的には繊布、不織布、フィルム、透湿フィルム、開孔フィルムや、これらの複合材等が好ましい。

【００３２】本実施形態の使い捨ておむつ１における外層体５の製造方法の一例について、図３を参照して説明する。先ず、外層体を構成する二枚のシート材５１，５２の内の少なくとも一方のシート材５１に、第１固定手段としての接着剤を所定のパターンで塗工する（塗工工程）。具体的には、図３（ａ）に示すように、シート材５１の流れ方向Ｘに、所定の間隔で間欠的に接着剤を塗布する。これにより、シート材５１に接着剤の塗布部Ｈ１と非塗布部Ｈ２とがシート材の流れ方向Ｘに亘って交互に形成される。

【００３３】次いで、胴周囲部弾性部材９並びに第１及び第２弾性部材７１ａ，７１ｂを、それぞれ接着剤を介して間欠的に両シート材５１，５２間に固定するように、伸長状態で導入した後、両シート材５１，５２間に貼り合わせる（導入貼り合わせ工程）。尚、両弾性部材７１ａ，７１ｂは、両連続シートの流れ方向Ｘに直交する方向Ｙに延動させながら導入する。図３に示す例においては、これらの弾性部材の導入の直後に、両シート材５１，５２を互いに貼り合わせている。この導入貼り合わせ工程において、両シート材５１，５２が接着剤の塗布部Ｈ１において互いに貼り合わされて接着領域Ｐ１が形成されると共に、両連続シートが互いに貼り合わされていない非接着領域Ｐ２が形成される。尚、胴周囲部弾性部材９並びに第１及び第２弾性部材７１ａ，７１ｂは、それぞれ接着領域Ｐ１においては、両シート材間に固定され、非接着領域Ｐ２においては、両シート材間に固定されない。

【００３４】次いで、図３（ｂ）に示すように、胴周囲部弾性部材９並びに第１及び第２弾性部材７１ａ，７１ｂを、両シート材５１，５２に固定されていない部位において切断し（切断工程）、更に、図３（ｃ）に示すように、切断された胴周囲部弾性部材９並びに両弾性部材７１ａ，７１ｂそれぞれにおける所定の部位を、第２固定手段としてのヒートシールにより、両シート材５１，５２間に固定する（固定工程）。図３中、Ｓ１で示した部分が、胴周囲部弾性部材９のヒートシールによる固定部位であり、Ｓ２で示した部分が、レッグ部弾性部材７１としての第１及び第２弾性部材７１ａ，７１ｂそれぞれにおけるヒートシールによる固定部位である。

【００３５】前記切断工程においては、各種公知の切断手段を用いることができ、例えばピンチカッター、ロータリーダイカッター、ヒートシールカッター、超音波カッター、ウォータージェットカッターなどを用いることができる。

【００３６】前記固定工程における第２固定手段としてヒートシールを用いる場合、ヒートシールは、そのシール領域をその全面亘ってシール（ベタシール）しても良いが、シール領域が硬くなり風合いが悪くなるのを防止する観点から、所定のパターンで部分的にシールするこ

とが好ましい。ヒートシールは、通常、レッグ部弾性部材をこれを固定するためのシート材と共に一対のシールロール間に挿通して行う。一対のシールロールは、パターンロール及びバックアップロールであることが好ましく、何れか一方のロールのみが加熱ロールでも良いし、両方が加熱ロールでも良い。ロール温度、シール時間、クリアランス、圧力等の因子を変化させることにより、材料に最適な加工条件で加工することができる。

【００３７】このような工程を経て、部分的に弾性化された積層シート５０が得られる。外層体５は、この積層シート５０から、レッグ部形成用の余分な部分７２を切断除去すると共に、該積層シート５０を個々の外層体５の寸法に切断することにより、得られる。尚、固定工程は、切断工程の前又は同時に行っても良い。

【００３８】本実施形態の使い捨ておむつ１は、例えば、上述した方法により製造した外層体５に、常法に従って製造した吸収性本体１０を公知の接合手段により接合固定し、更に腹側部Ａの両側縁Ａ１，Ａ２と背側部Ｂの両側縁Ｂ１，Ｂ２とを接合することにより得られる。

【００３９】本実施形態の使い捨ておむつ１は、通常のパンツ型の使い捨ておむつと同様にして使用することができる。そして、本実施形態の使い捨ておむつ１によれば、胴周囲部Ｂに胴周囲部弾性部材９が配されているため、着用者の胴廻りにおけるフィット性が向上しており、漏れ防止性能にも優れている。しかも、胴周囲部弾性部材９が、吸収体４が存在する部位において弾性伸縮性を発現しないようになされているため、着用中における吸収体４の縮みやヨレが効果的に防止され、吸収体４が本来有する吸収性能を充分に発揮させることができる。そのため、おむつ１に充分な吸収性能を維持しながら、吸収体４の小型化、使用材料の削減等を図ることも可能である。また、吸収体がひだ寄せされ難いので、すっきりした外観であり、印刷されたデザインも見易い。

【００４０】また、使い捨ておむつ１においては、胴周囲弾性部材の所定箇所が第２固定手段により固定されているため、胴周囲部弾性部材として、伸長応力が大きい弾性部材や、タルクが表面に付着している天然ゴム等の接着性の悪い弾性部材を用いた場合においても、ゴム抜けが生じない。従って、胴回りに適正な締め付け力が得られるように、胴周囲部弾性部材の伸長応力及びその配設伸張率を適宜に決定することができ、効率的且つ経済的に、フィット性や吸収性能、漏れ防止性能の向上を図ることができる。また、本実施形態の使い捨ておむつ１においては、第１固定手段のみにより胴周囲部弾性部材を固定する場合と異なり、多量の接着剤を使用する必要がないため、多量の接着剤による柔軟性の低下や肌への悪影響、べたつきによる不快感等を生じる恐れがない。

【００４１】また、本使い捨ておむつ１においては、レッグ部弾性部材７１が吸収体４が存在する部分において、弾性伸縮性を発現しないようになされているため、特に股下部におけるフィット性及び吸収性能に優れている。しかも、レッグ部弾性部材７１も胴周囲部弾性部材９と同様に第１及び第２固定手段により固定されているため、一層、効率的且つ経済的に、フィット性や吸収性能、漏れ防止性能の向上を図ることができる。

【００４２】以上、本発明の一実施形態について説明したが、本発明は上記実施形態に制限されることなく、本発明の趣旨を逸脱しない範囲において種々変更が可能である。例えば、胴周囲部弾性部材は、腹側部及び背側部の何れか一方にのみ配されていても良い。また、腹側部及び背側部に配されている場合であっても、腹側部及び背側部の何れか一方のみにおいて、胴周囲部弾性部材が、吸収体４の存在する部位において、弾性伸縮性を発現しないようになされていても良い。

【００４３】また、上記実施形態における胴周囲部弾性部材９は、おむつ１の最外表面を形成するシート材（外層シート）５１とその内側のシート材（内層シート）５２との間に配されていたが、これに制限されず、内層シート５２とその内側に配されるシート材との間や外層体５の構成する他の二枚のシート材間、更に裏面シート３と外層体５を構成するシート材との間等に配されていても良い。

【００４４】また、レッグ部弾性部材７１は、吸収体４が存在する部位において、弾性伸縮性を発現するようになされていても良い。

【００４５】また、胴周囲部弾性部材９における弾性伸縮性を発現する部分が、吸収体４が存在する部位に多少重なっていても良い。また、吸収体４の両側縁の外方に、胴周囲部弾性部材９が弾性伸縮性を発現しない部分があっても良い。

【００４６】また、胴周囲部弾性部材９を第２固定手段により固定する部位は、弾性伸縮性を発現しない部分と弾性伸縮性を発現する部分との境界線上の他、該境界線から、弾性伸縮性を発現しない部分側又は弾性伸縮性を発現する部分側に多少離れた位置であっても良い。

【００４７】また、胴周囲部弾性部材９が、吸収体４が存在する部位において、弾性伸縮性を発現しないようになされている態様としては、胴周囲部弾性部材９が、複数箇所において切断され、断片化されていても良い。

【００４８】また、胴周囲部弾性部材９を固定する第１固定手段とレッグ部弾性部材７１を固定する第１固定手段とは同一でも異なっていても良く、第２固定手段についても同様である。

【００４９】また、胴周囲弾性部材９及び／又はレッグ部弾性部材７１の切断箇所に、これらの弾性部材の切断により生じた端部を遮蔽する遮蔽シートを設けても良い。切断により生じた弾性部材の端部は、収縮して非機能化されており、その切れ端が外側より透けて見えたり、切断箇所の外層シートがダメージを受け、穴があい

たりする場合がある。その部分に隠蔽シートを設けることで、見栄えが良くなる。尚、隠蔽シートの形成材料としては、肌着に近い感触の高可撓性シートが好ましく、具体的には織布、不織布、フィルム、透湿フィルム、開孔フィルム、紙や、これらの複合材等が用いられる。

【００５０】本発明は、パンツ型の使い捨ておむつの他、一対のファスニングテープが設けられた展開型の使い捨ておむつ、更には、パンツ型の生理用ナプキン等にも適用することもできる。

【００５１】

【発明の効果】本発明の吸収性物品によれば、製品開発時に、胴回りに適正な締め付け力が得られるように、胴周囲部弾性部材の伸長応力やその配設伸張率を自由に決定でき、胴回りの柔軟性の悪化や肌への刺激等の不都合を伴わずに、フィット性や吸収性能、漏れ防止性能を向上させることができる。

【図面の簡単な説明】

【図１】図１は、本発明の一実施形態の使い捨ておむつを示す斜視図である。

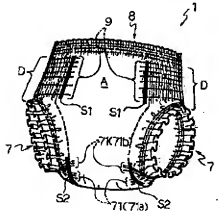
【図２】図２は、図１に示す使い捨ておむつを展開状態を示す分解斜視図である。

【図３】図３は、図１に示す使い捨ておむつにおける外層体の製造工程の一例の概略を示す図である。

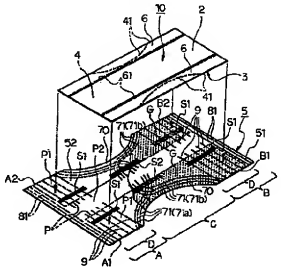
＊【符号の説明】

１	使い捨ておむつ
１０	吸収性本体
２	表面シート
３	裏面シート
４	吸収体
４１	吸収体の側縁
５	外層体
５１	シート材（外層シート）
５２	シート材（内層シート）
６	立体ガード
６１	立体ガード弾性部材
７	レッグ開口部
７０	レッグ部
７１	レッグ部弾性部材
７１ａ	第１弾性部材
７１ｂ	第２弾性部材
８	ウエスト開口部
８１	ウエスト弾性部材
９	胴周囲部弾性部材
Ａ	腹側部
Ｂ	背側部
Ｃ	股下部

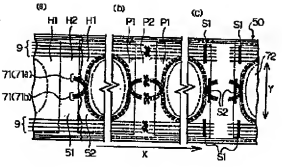
【図１】



【図２】



【図3】



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